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Wickramasinghe

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(54) **BEVERAGE TRAY FILLING ASSEMBLY**

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B01F 13/10 (2006.01)
A47G 33/00 (2006.01)

(52) **U.S. Cl.**
CPC ***B67D 3/0029*** (2013.01); *A47G 33/002* (2013.01); *B01F 13/1058* (2013.01)

(58) **Field of Classification Search**
CPC B01F 13/1058; B67D 3/00; B67D 3/0029; A47G 33/00; A47G 33/02; A47G 33/002
USPC 141/2, 144, 234–248, 256, 267–268, 141/283; 222/144, 144.5
See application file for complete search history.

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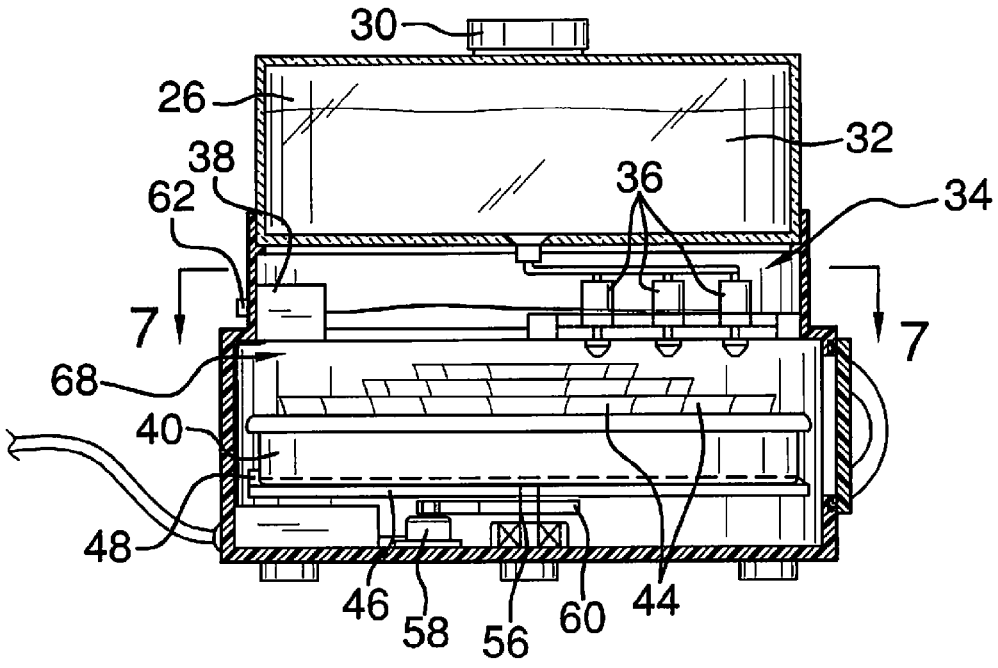
(57) **ABSTRACT**

A beverage tray filling assembly includes a housing having a bottom and a perimeter wall extending upwardly from the bottom of the housing. The perimeter wall defines a base of the housing. An access opening extends through the perimeter wall of the housing. A tank is coupled to the housing and configured for holding a beverage. A filling assembly is coupled to and positioned in the housing. The filling assembly is in fluid communication with the tank whereby the filling assembly dispenses the beverage from the tank. A tray is insertable through the access opening and positionable in the base of the housing. Each of a plurality of serving cups is positioned in an associated aperture in the tray. The tray is positionable such that each serving cup receives the beverage dispensed from the tank by the filling assembly.

9 Claims, 7 Drawing Sheets



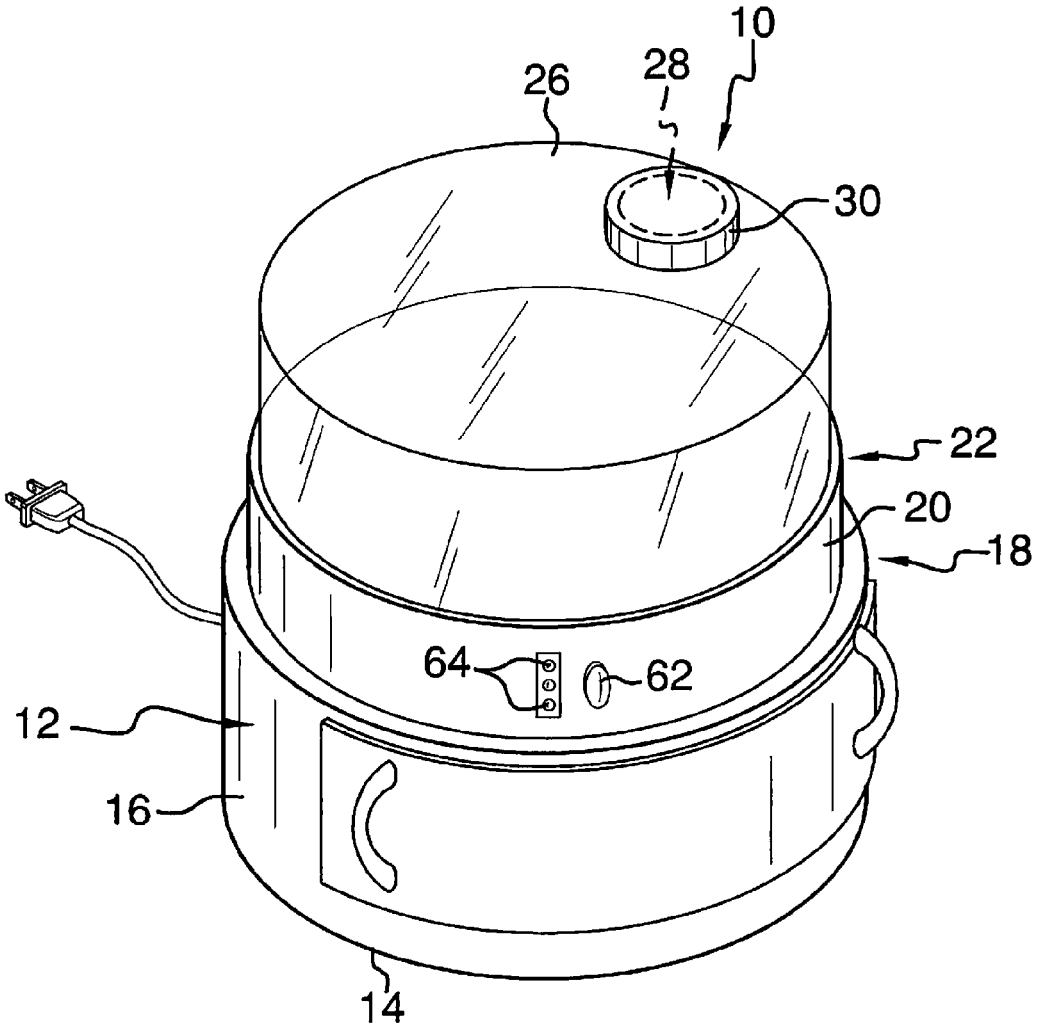


FIG. 1

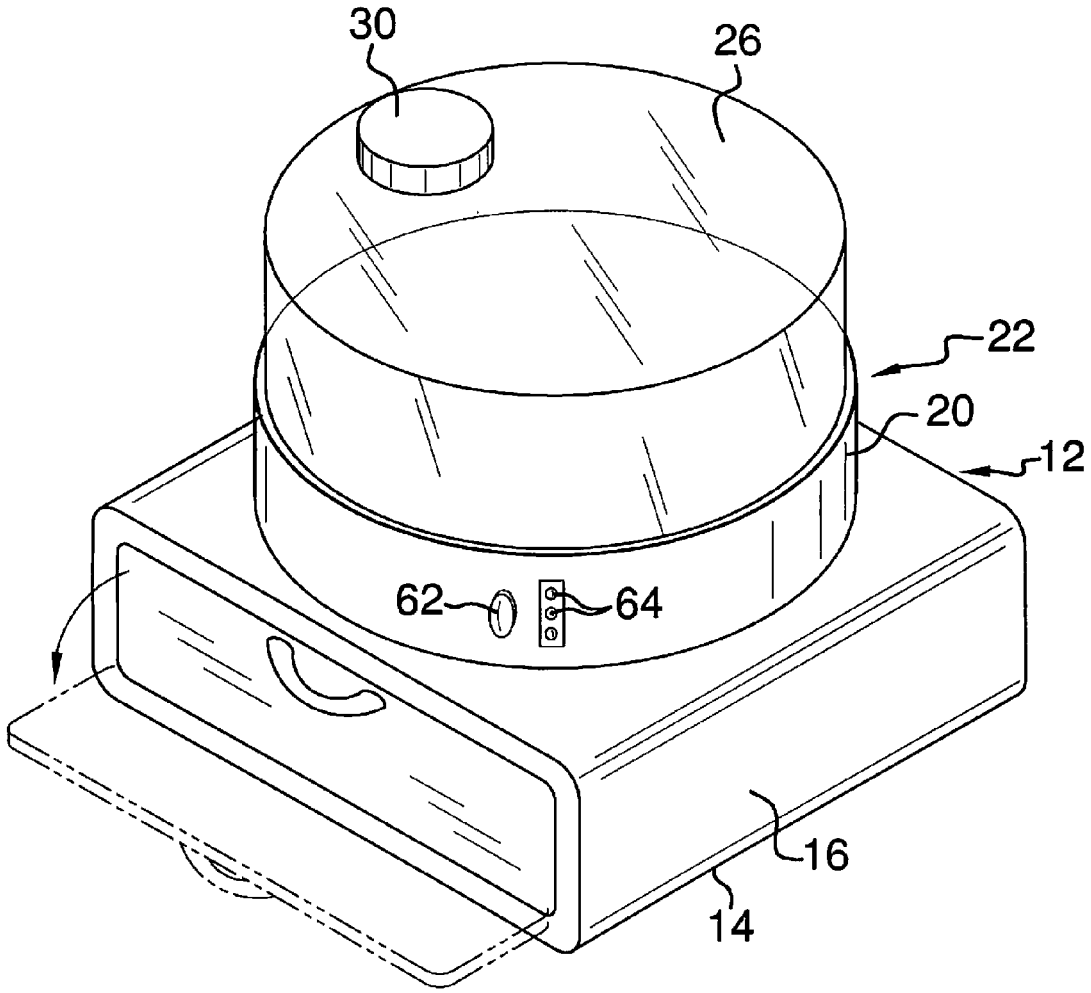


FIG. 2

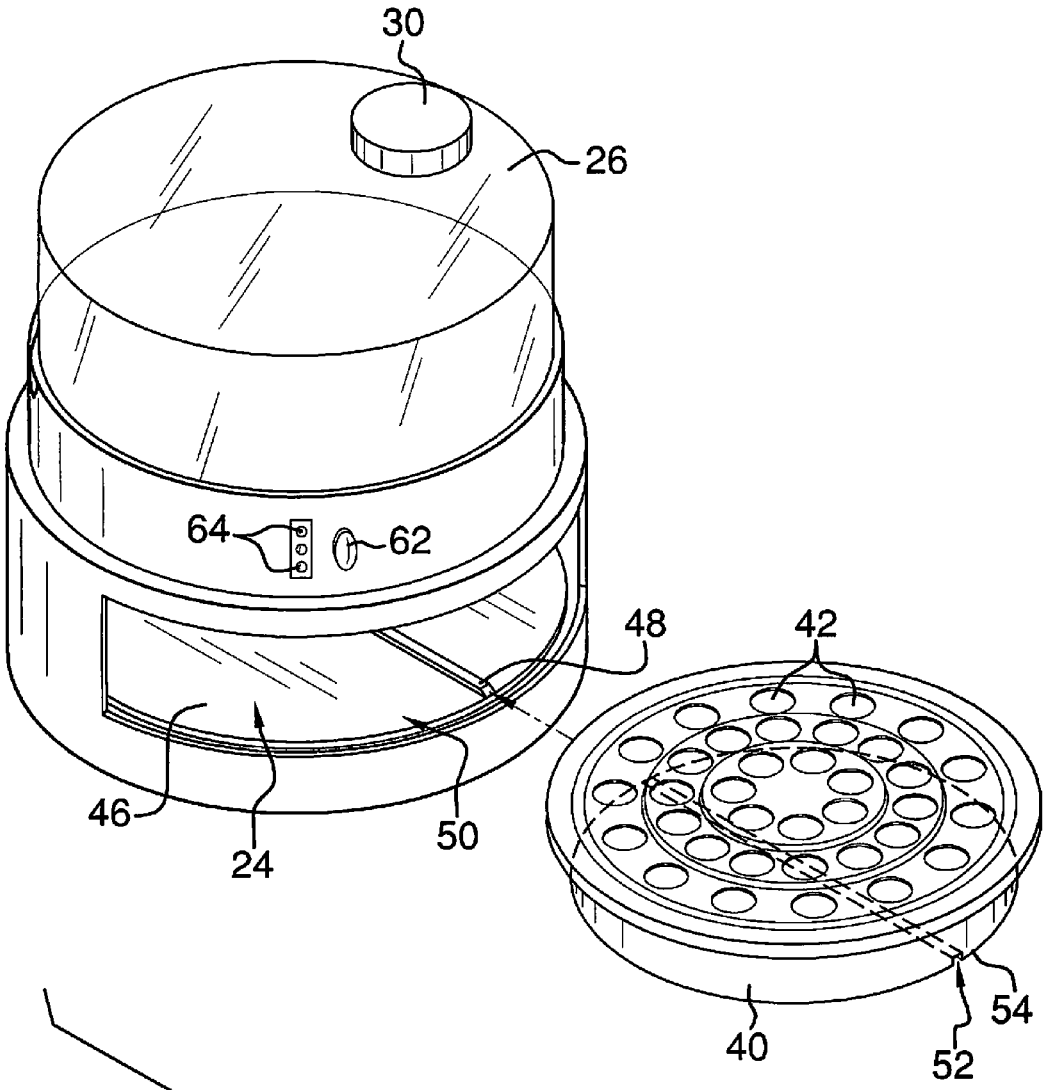


FIG. 3

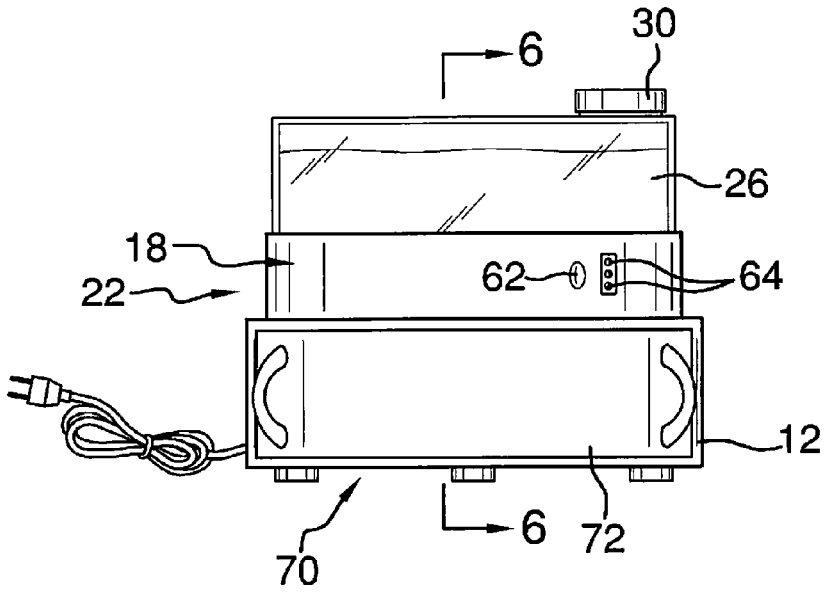


FIG. 4

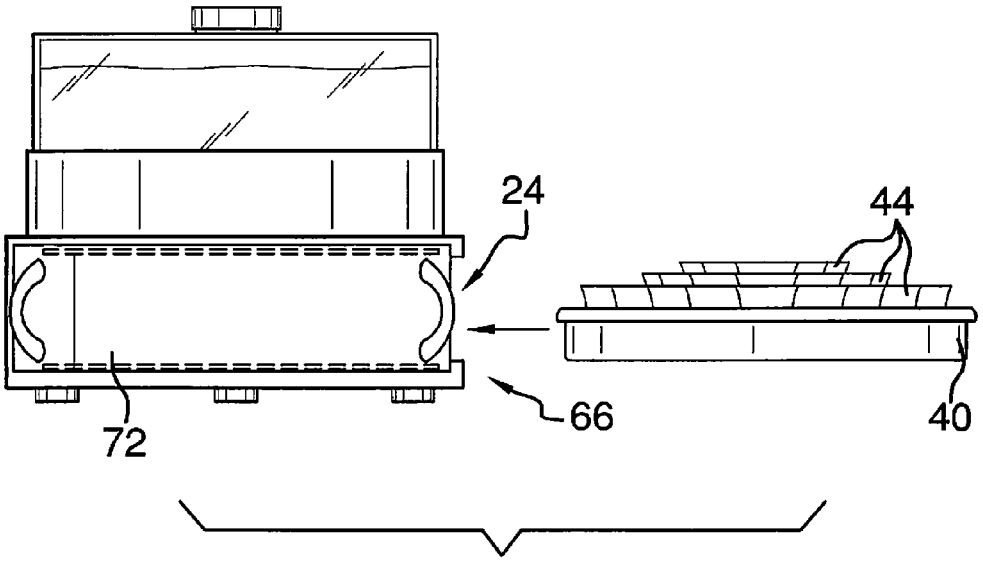


FIG. 5

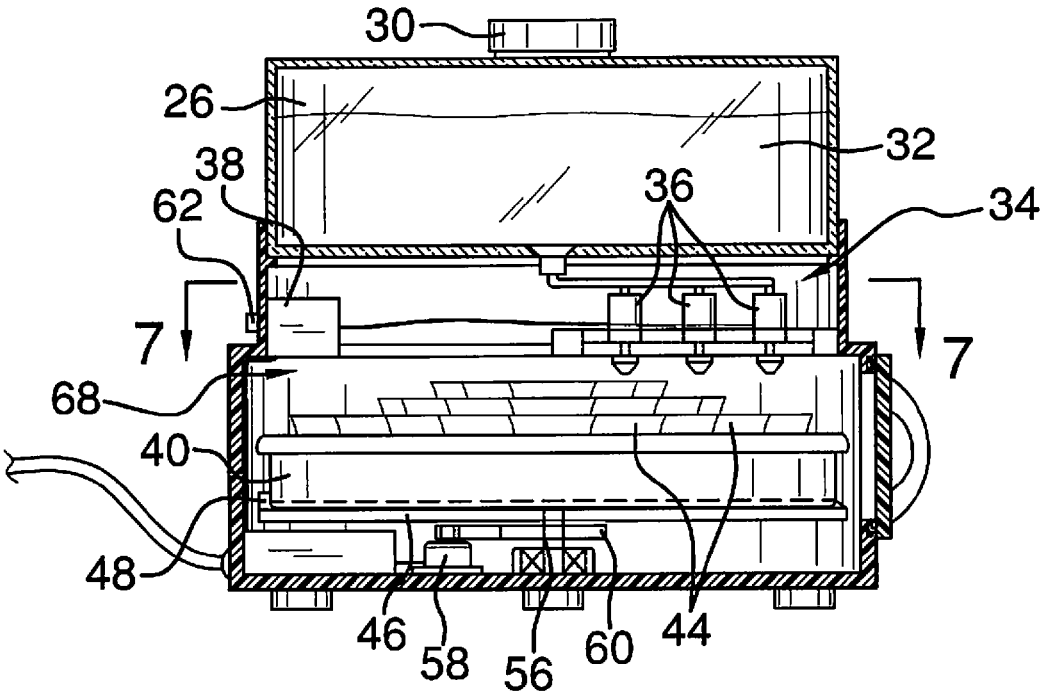


FIG. 6

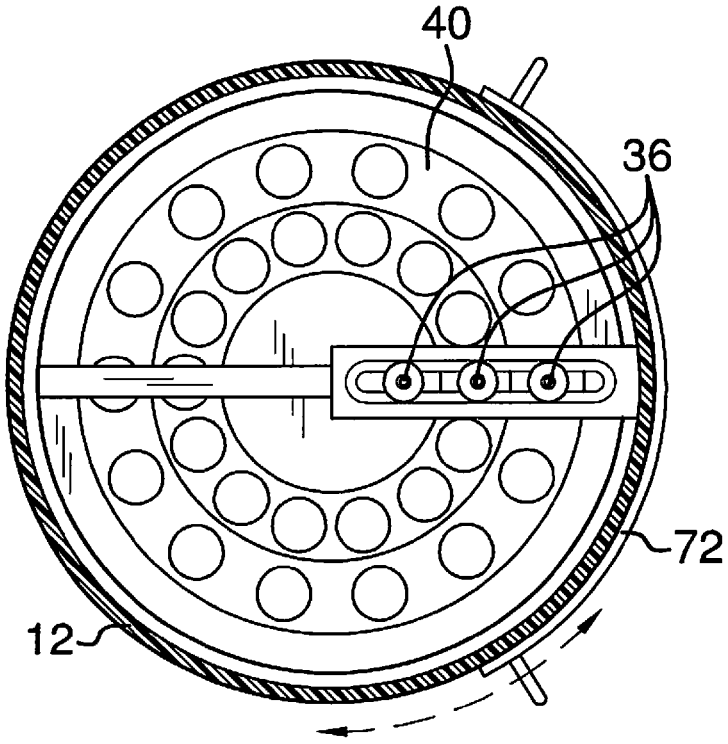


FIG. 7

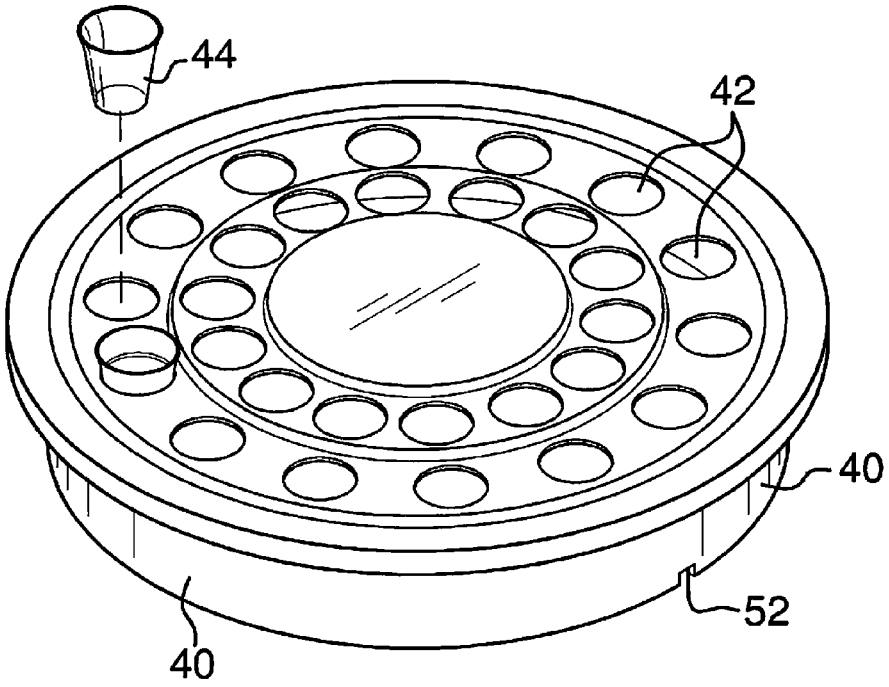


FIG. 8

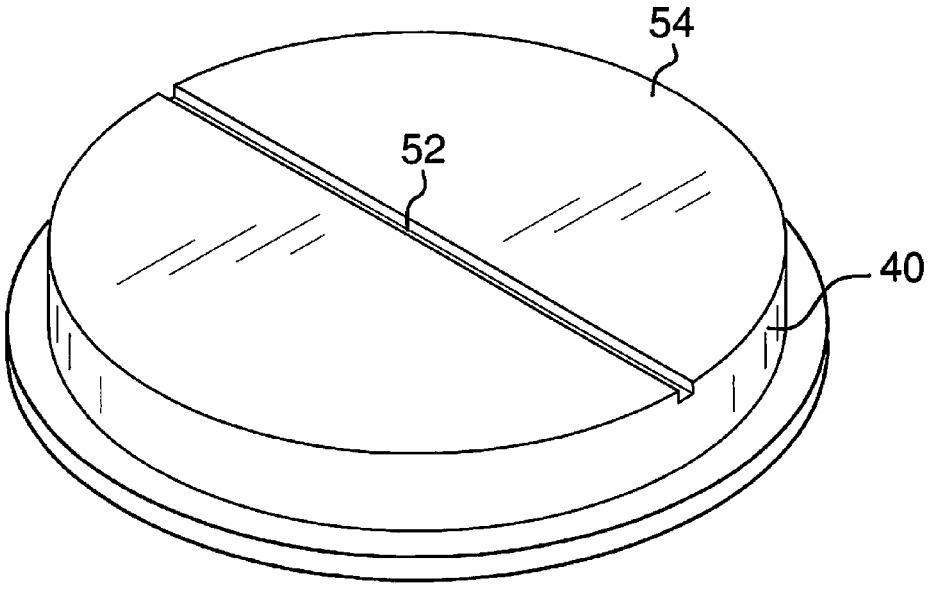


FIG. 9

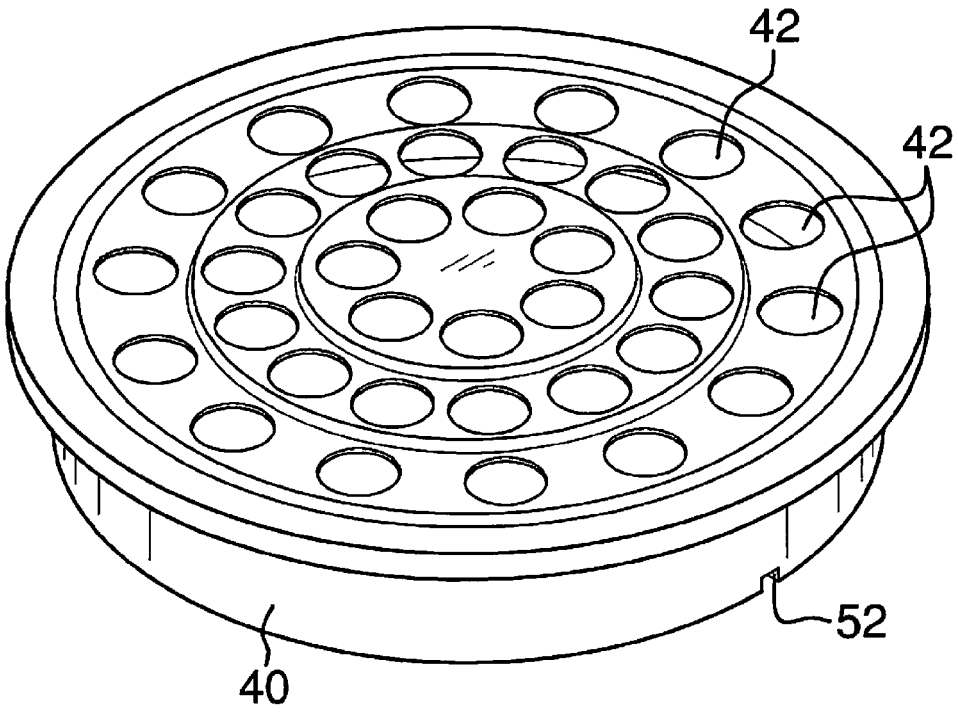


FIG. 10

BEVERAGE TRAY FILLING ASSEMBLY

BACKGROUND OF THE DISCLOSURE

Field of the Disclosure

The disclosure relates to beverage dispensers and more particularly pertains to a new beverage dispenser for filling individual cups held in a tray to facilitate preparation for a communion ceremony.

SUMMARY OF THE DISCLOSURE

An embodiment of the disclosure meets the needs presented above by generally comprising a housing having a bottom and a perimeter wall extending upwardly from the bottom of the housing. The perimeter wall defines a base of the housing. An access opening extends through the perimeter wall of the housing. A tank is coupled to the housing and configured for holding a beverage. A filling assembly is coupled to and positioned in the housing. The filling assembly is in fluid communication with the tank whereby the filling assembly dispenses the beverage from the tank. A tray is insertable through the access opening and positionable in the base of the housing. Each of a plurality of serving cups is positioned in an associated aperture in the tray. The tray is positionable such that each serving cup receives the beverage dispensed from the tank by the filling assembly.

There has thus been outlined, rather broadly, the more important features of the disclosure in order that the detailed description thereof that follows may be better understood, and in order that the present contribution to the art may be better appreciated. There are additional features of the disclosure that will be described hereinafter and which will form the subject matter of the claims appended hereto.

The objects of the disclosure, along with the various features of novelty which characterize the disclosure, are pointed out with particularity in the claims annexed to and forming a part of this disclosure.

BRIEF DESCRIPTION OF THE DRAWINGS

The disclosure will be better understood and objects other than those set forth above will become apparent when consideration is given to the following detailed description thereof. Such description makes reference to the annexed drawings wherein:

FIG. **1** is a top front side perspective view of a beverage tray filling assembly according to an embodiment of the disclosure.

FIG. **2** is a top front side perspective view of an embodiment of the disclosure.

FIG. **3** is a partially exploded top front side perspective view of an embodiment of the disclosure.

FIG. **4** is a front view of an embodiment of the disclosure.

FIG. **5** is a partially exploded side view of an embodiment of the disclosure.

FIG. **6** is a cross-sectional view of an embodiment of the disclosure taken along line **6-6** of FIG. **3**.

FIG. **7** is a cross-sectional view of an embodiment of the disclosure taken along line **7-7** of FIG. **6**.

FIG. **8** is a top front side perspective view of a tray of an embodiment of the disclosure.

FIG. **9** is a bottom front side perspective view of a tray of an embodiment of the disclosure.

FIG. **10** is a top front side perspective view of a tray of an embodiment of the disclosure.

DESCRIPTION OF THE PREFERRED EMBODIMENT

With reference now to the drawings, and in particular to FIGS. **1** through **10** thereof, a new beverage dispenser embodying the principles and concepts of an embodiment of the disclosure and generally designated by the reference numeral **10** will be described.

As best illustrated in FIGS. **1** through **10**, the beverage tray filling assembly **10** generally comprises a housing **12** having a bottom **14** and a perimeter wall **16** extending upwardly from the bottom **14** of the housing **12**. The perimeter wall **16** defines a base **18** of the housing **12**. The housing **12** may also have a peripheral wall **20** coupled to and extending upwardly from the perimeter wall **16**. The peripheral wall **20** is inwardly offset from the perimeter wall **16** defining an upper section **22** of the housing **12**. The base **18** may have a rectangular shape, as seen in FIG. **2**, or circular shape, as seen in FIG. **1**.

An access opening **24** extends through the perimeter wall **16** of the housing **12**. A tank **26** is coupled to the housing **12** and may be placed on top of the housing **12**. The tank **26** may have a wide mouthed hole **28** coverable by a cap **30**. The tank **26** is configured for holding a beverage **32** such as juice or wine to be distributed to a congregation for a communion ceremony. A filling assembly **34** is coupled to and positioned in the housing **12**. The filling assembly **34** is in fluid communication with the tank **26**. Thus, the filling assembly **34** is configured for dispensing the beverage **32** from the tank **26**. The filling assembly **34** may have a plurality of aligned nozzles **36**. The nozzles **36** are each configured for dispensing the beverage **32**. The filling assembly **34** may be positioned in the upper section **22** of the housing **12**. The filling assembly **34** may include a processor **38** operationally coupled to the nozzles **36** for selectively opening each nozzle **36** independently.

A tray **40** is insertable through the access opening **24** and positionable in the base **18** of the housing **12**. The tray **40** has a plurality of apertures **42**. The apertures **42** in the tray **40** may be radially aligned whereby the apertures **42** are selectively alignable with the nozzles **36**. A plurality of serving cups **44** is provided. Each serving cup **44** is positioned in an associated one of the apertures **42** in the tray **40**. The tray **40** is positionable whereby each serving cup **44** is configured to receive the beverage **32** dispensed from the tank **26** by the filling assembly **34**. The processor **38** may be pre-programmed to open the nozzles **36** corresponding to a predetermined pattern corresponding to the positioning of the apertures **42** and serving cups **44** in the event there are fewer rows of apertures **42** than nozzles **36** of if the apertures **42** are not radially aligned.

A rotating panel **46** is coupled to and positioned in the base **18**. The tray **40** is positionable on the rotating panel **46** whereby the tray **40** is rotated to align the nozzles **36** with the serving cups **46** in the apertures **42**. To insure proper alignment, a tongue **48** may extend upwardly from a top surface **50** of the rotating panel **46** and a groove **52** may extend into a bottom **54** of the tray **40**. The groove **52** receives the tongue **48** when the tray **40** is positioned on the rotating panel **46**. Thus, the tray **40** is held in a static position relative to the rotating panel **46** as the rotating panel **46** rotates. Further, the orientation of the groove **52** may be consistent or known relative to the apertures **42** thus facilitating proper alignment of the nozzles **36** and serving cups **44** by a program implemented by the processor **38**. A shaft **56** is coupled to and extends from the

rotating panel **46**. A motor **58** is coupled to and positioned in the housing **12**. The motor **58** is operationally coupled to the shaft **56** by a belt **60** or gearing whereby the motor **58** selectively rotates the rotating panel **46**. The motor **58** may be operationally controlled by the processor **38**.

A dispensing button **62** is coupled to the housing **12**. Indicator lights **64** may also be coupled to the housing **12** to indicate progress while filling the serving cups **44** with the beverage **32**. The dispensing button **62** is operationally coupled to the filling assembly **34** and the motor **58** for selectively rotating the tray **40** and dispensing the beverage **32** into each of the serving cups **44** when the serving cup **44** is positioned beneath one of the nozzles **36**.

A door **72** may be coupled to the housing **12**. The door **72** selectively covers the access opening **24**. The door **72** may be slidably coupled to the perimeter wall **16** to slide between an open position **66** providing access to an interior **68** of the base **18** through the access opening **24** and a closed positioned **70** blocking the access opening **24**.

In use, the tray **40** is inserted through the access opening **24** and placed on the rotating panel **46**. The dispensing button **62** is manipulated to initiate filling of the serving cups **44** in the apertures **42** in the tray **40**. When all the serving cups **44** have been filled with the beverage **32**, the door **72** is opened and another tray **40** may be loaded into the base **12** for filling.

With respect to the above description then, it is to be realized that the optimum dimensional relationships for the parts of an embodiment enabled by the disclosure, to include variations in size, materials, shape, form, function and manner of operation, assembly and use, are deemed readily apparent and obvious to one skilled in the art, and all equivalent relationships to those illustrated in the drawings and described in the specification are intended to be encompassed by an embodiment of the disclosure.

Therefore, the foregoing is considered as illustrative only of the principles of the disclosure. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the disclosure to the exact construction and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the disclosure.

I claim:

1. A beverage tray filling assembly comprising:

a housing having a bottom and a perimeter wall extending upwardly from said bottom of said housing, said perimeter wall defining a base of said housing;

an access opening extending through said perimeter wall of said housing;

a tank, said tank being coupled to said housing, said tank being configured for holding a beverage;

a filling assembly coupled to and being positioned in said housing, said filling assembly being in fluid communication with said tank whereby said filling assembly is configured for dispensing the beverage from said tank, said filling assembly having a plurality of aligned nozzles;

a tray being insertable through said access opening and positionable in said base of said housing, said tray having a plurality of apertures, said apertures in said tray being radially aligned whereby said apertures are selectively alignable with said nozzles for filling said serving cups;

a plurality of serving cups, each serving cup being positioned in an associated one of said apertures in said tray, said tray being positionable whereby each serving cup is configured to receive the beverage dispensed from said tank by said filling assembly;

a rotating panel coupled to and positioned in said base, said tray being positionable on said rotating panel whereby said tray is rotated to align said nozzles with said serving cups in said apertures;

a tongue extending upwardly from a top surface of said rotating panel;

a single groove extending into and fully across a bottom of said tray, said groove receiving said tongue when said tray is positioned on said rotating panel whereby said tray is held in a static position relative to said rotating panel as said rotating panel rotates and wherein said apertures in said tray are consistently positioned relative to said rotating panel when said tray is positioned on said rotating panel; and

a processor configured to control opening of the nozzles and positioning of the rotating panel;

wherein the number of nozzles is fewer than the number of apertures in the tray, and the processor controls positioning of the rotating panel during filling based on a known position of the tongue to align the serving cups with the nozzles in a plurality of rotational positions of the rotating panel.

2. The assembly of claim **1**, further including said housing having a peripheral wall coupled to and extending upwardly from said perimeter wall, said peripheral wall being inwardly offset from said perimeter wall, said peripheral wall defining an upper section of said housing.

3. The assembly of claim **2**, further including said filling assembly being positioned in said upper section of said housing.

4. The assembly of claim **1**, further comprising:

a shaft coupled to and extending from said rotating panel; and

a motor coupled to and positioned in said housing, said motor being operationally coupled to said shaft whereby said motor selectively rotates said rotating panel.

5. The assembly of claim **4**, further including a dispensing button coupled to said housing, said dispensing button being operationally coupled to said filling assembly and said motor for selectively rotating said tray and dispensing said beverage into each of said serving cups when said serving cup is positioned beneath one of said nozzles.

6. The assembly of claim **1**, further including a dispensing button coupled to said housing, said dispensing button being operationally coupled to said filling assembly.

7. The assembly of claim **1**, further including a door coupled to said housing, said door selectively covering said access opening.

8. The assembly of claim **7**, further including said door being slidably coupled to said perimeter wall, said door being slidable between an open position providing access to an interior of said base through said access opening and a closed positioned blocking said access opening.

9. A beverage tray filling assembly comprising:

a housing having a bottom and a perimeter wall extending upwardly from said bottom of said housing, said perimeter wall defining a base of said housing, said housing having a peripheral wall coupled to and extending upwardly from said perimeter wall, said peripheral wall being inwardly offset from said perimeter wall, said peripheral wall defining an upper section of said housing;

an access opening extending through said perimeter wall of said housing;

a tank, said tank being coupled to said housing, said tank being configured for holding a beverage;

a filling assembly coupled to and being positioned in said housing, said filling assembly being in fluid communication with said tank whereby said filling assembly is configured for dispensing the beverage from said tank, said filling assembly having a plurality of aligned nozzles, said nozzles being configured for dispensing the beverage, said filling assembly being positioned in said upper section of said housing;

a tray being insertable through said access opening and positionable in said base of said housing, said tray having a plurality of apertures, said apertures in said tray being radially aligned whereby said apertures are selectively alignable with said nozzles;

a plurality of serving cups, each serving cup being positioned in an associated one of said apertures in said tray, said tray being positionable whereby each serving cup is configured to receive the beverage dispensed from said tank by said filling assembly;

a rotating panel coupled to and positioned in said base, said tray being positionable on said rotating panel whereby said tray is rotated to align said nozzles with said serving cups in said apertures;

a tongue extending upwardly from a top surface of said rotating panel;

a single groove extending into a bottom of said tray, said groove receiving said tongue when said tray is positioned on said rotating panel whereby said tray is held in a static position relative to said rotating panel as said rotating panel rotates and wherein said apertures in said tray are consistently positioned relative to said rotating panel when said tray is positioned on said rotating panel;

a shaft coupled to and extending from said rotating panel;

a motor coupled to and positioned in said housing, said motor being operationally coupled to said shaft whereby said motor selectively rotates said rotating panel;

a dispensing button coupled to said housing, said dispensing button being operationally coupled to said filling assembly and said motor for selectively rotating said tray and dispensing said beverage into each of said serving cups when said serving cup is positioned beneath one of said nozzles;

a door coupled to said housing, said door selectively covering said access opening, said door being slidably coupled to said perimeter wall, said door being slidable between an open position providing access to an interior of said base through said access opening and a closed positioned blocking said access opening; and

a processor configured to control opening of the nozzles and positioning of the rotating panel;

wherein the number of nozzles is fewer than the number of apertures in the tray, and the processor controls positioning of the rotating panel during filling based on a known position of the tongue to align the serving cups with the nozzles in a plurality of rotational positions of the rotating panel.

* * * * *